

### AMENDMENTS TO THE CLAIMS

1. (Currently amended) An improved rotation sensor having:
  - a cylindrical first rotor made of an insulating magnetic material, having conductor layers arranged circumferentially, the first rotor being attached to a rotating first shaft at a predetermined axial position;
  - a ~~fixed~~ core body having an exciting coil, the core body being ~~fixed to a fixing member~~ arranged with a space secured in the ~~axial-radial~~ axial direction with respect to the first shaft;
  - a stator on which the core body is fixed, said stator being fixed to a fixing member;
  - a second rotor having a nonmagnetic metal bodies arranged circumferentially to oppose the conductor layers respectively, the second rotor being attached to a second shaft located adjacent to and rotating relative to the first shaft and being located between the first rotor and the ~~fixed-core~~ stator; and
  - oscillating means connected to the exciting coil, the means transmitting an oscillation signal of a specific frequency;
  - wherein the improvement comprises:
    - ~~rotation guides for guiding rotation of the first and second rotors respectively with respect to the fixed core.~~ a first guide ring formed on the first rotor and engaged with the stator for guiding rotation of the first rotor with respect to the stator; and
    - a second guide ring formed on the second rotor and engaged with the stator for guiding rotation of the first rotor with respect to the stator.
2. (Currently amended) The rotation sensor according to claim 1, wherein the first and second guide rings obtained by molding a metal or a synthetic resin.
3. (Cancelled)
4. (Currently amended) The rotation sensor according to claim ~~3~~ 2, wherein the first and second guide rings each have a multiplicity of protrusions formed circumferentially on the periphery and on the upper and lower surfaces.
5. (Currently amended) The rotation sensor according to claim 1, wherein the ~~rotation guides~~ first and second guide rings are bearings interposed between the first rotor and the ~~fixed-core~~ stator and between the second rotor and the ~~fixed-core~~ stator, respectively.

6. (Cancelled)
7. (Currently amended) The rotation sensor according to claim 1, wherein the ~~fixed~~ core stator contains two exciting coils in a the core body.
8. (Currently amended) The rotation sensor according to claim 1, wherein the ~~fixed~~ core stator has a case for shielding an alternate current magnetic field.
9. (New) An improved rotation sensor having:
  - a cylindrical first rotor made of an insulating magnetic material, having conductor layers arranged circumferentially, the first rotor being attached to a rotating first shaft at a predetermined axial position;
  - a core body having an exciting coil, the core body being arranged with a space secured in the radial direction with respect to the first shaft;
  - a stator on which the core body is fixed, said stator being fixed to a fixing member;
  - a second rotor having a nonmagnetic metal bodies arranged circumferentially to oppose the conductor layers respectively, the second rotor being attached to a second shaft located adjacent to and rotating relative to the first shaft and being located between the first rotor and the stator; and
  - oscillating means connected to the exciting coil, the means transmitting an oscillation signal of a specific frequency;
  - wherein the improvement comprises:
    - a first rotation guide arranged between the first rotor and stator and engaged with the stator for guiding rotation of the first rotor with respect to the stator; and
    - a second rotation guide arranged between the second rotor and stator and engaged with the stator for guiding rotation of the second rotors with respect to the stator.
10. (New) The rotation sensor according to claim 9, wherein the rotation guides are guide rings obtained by molding a metal or a synthetic resin.
11. (New) The rotation sensor according to claim 10, wherein a first guide ring and a second guide ring are formed on the first and second rotors respectively and are engaged with the stator.

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12. (New) The rotation sensor according to claim 11, wherein the first and second guide rings each have a multiplicity of protrusions formed circumferentially on the periphery and on the upper and lower surfaces.

13. (New) The rotation sensor according to claim 9, wherein the first and second rotation guides are bearings interposed between the first rotor and the stator and between the second rotor and the stator, respectively.

14. (New) The rotation sensor according to claim 9, wherein the stator contains two exciting coils in the core body.

15. (New) The rotation sensor according to claim 9, wherein the stator has a case for shielding an alternate current magnetic field.